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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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08/795,961 02/04/97 FYSON

J 71442JRE
EXAMINER

IM2170527

SARAH MEERS ROBERTS
EASTMAN KODAK COMPANY
PATENT LEGAL STAFF
ROCHESTER NY 14650-2201

PRIORITY NUMBER PAPER NUMBER
6

1724
DATE MAILED:

05/27/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 2-25-98

☒ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1 & 3-20 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
☐ Claim(s) _____ is/are allowed.
☒ Claim(s) 1 & 3-20 is/are rejected.
☐ Claim(s) _____ is/are objected to.
☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
☐ The specification is objected to by the Examiner.
☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.
☐ received in Application No. (Series Code/Serial Number) _____
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
☐ Interview Summary, PTO-413
☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 and 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3635219 A1 in view of Yan '063 for the reasons as set forth in the prior Office Action.

4. Applicant's arguments filed February 25, 1998 have been fully considered but they are not persuasive.

Applicant argues that the Yan reference is inadequate to overcome the deficiencies in the DE reference because Yan does not relate to photographic effluent, requires elevated temperatures, uses air as the oxygen source and teaches the preferred use of a combination of metals, and not their oxidized forms or sulfide catalysts. Furthermore, Applicant argues that Yan states that the catalyst can be activated by reduction which leads away from the catalysts preferred in the present invention. Yan is cited to show the use of supported transition metal catalysts

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wherein the transition metals may be molybdenum or tungsten. While Yan does not disclose the treatment of photographic effluents, this teaching is provided by the DE reference. The reasons that it would have been obvious to have used the supported catalysts taught by Yan in the process of the DE reference are at least two-fold. Firstly, Yan discloses oxidation of offensive substances, including the sulfur-containing compounds characterized in the instant claims as "reduced species", specifically thiosulfate and sulfites. Thus, the fact that Yan does not specifically disclose that the supported catalysts would be effective to oxidize such species in photographic effluents does not mean that the person of ordinary skill would not have found the chemistry similar enough to conclude that such supported catalysts would be effective in photographic effluents containing the same species targeted for oxidation, as disclosed in the DE reference. Secondly, Yan discloses among the advantages of using supported transition metal catalysts of avoiding the "potential for the introduction of undesirable substances into the treated wastewater..." (Paragraph bridging cols. 1 and 2). This statement suggests that the direct addition of catalyst in soluble form, i.e., unsupported, to the waste water being treated is undesirable because the potential for transition metal remaining in the treated water is undesirable. Thus, such statement clearly suggests to one of ordinary skill the use of supported catalysts wherein the catalyst is fixed to a support and is thus less likely to be solubilized by the waste water being treated. While Yan does disclose that the transition metals are preferably used in combination such as CoMo, NiMo, NiW, etc., i.e., the reduced forms of the metals, the instant claims are not limited to the use of such forms of the metals, and Yan discloses in col. 5, lines 25-

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31 that the molybdate and tungstate forms of the transition metals may be impregnated into the catalyst support. The subsequent steps disclosed by Yan are necessary to achieve the reduced and/or sulfided forms of the catalyst, But, the DE reference does not use such reduced forms, and it is thus submitted that since the non-reduced forms are effective to oxidize the sulfur-containing compounds, the subsequent steps of reduction or sulfiding in Yan would not appear to be necessary to utilize the supported catalysts (see also Yan '078 regarding the use of supported oxidized forms of the transition metal catalysts). The instant claims do not exclude the reaction conditions disclosed in Yan, and furthermore, the person having ordinary skill in the art would be guided by the DE reference for the selection of the reaction conditions (i.e., temperature, pressure, etc.) and the choice of oxidant, i.e., hydrogen peroxide.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil M. McCarthy whose telephone number is (703) 308-3842.


NEIL MCCARTHY
PRIMARY EXAMINER
GROUP 1300

nmn

May 26, 1998